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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,655	12/11/2001	Ken Ohmura	KON-1694	4805

20311 7590 01/09/2003

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
1756	3

DATE MAILED: 01/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,655

Applicant(s)

OHMURA ET AL.

Examiner

Christopher D RoDee

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-- Th MAILING DATE of this communication appears on th cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The phraseology of the last sentence of specification page 3 is awkward. Correction is requested.

Claim Objections

✓ Claims 1 and 7 are objected to because of the following informalities: claims 1 and 7 have "not" misspelled as "nor" in the phrase "not more than 0.08". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

✓ Claims 1-8 are indefinite because it is unclear if the difference in re-dispersion electroconductivity of each toner is relative to each of the other toners or with respect to only one toner. For example, if the yellow and cyan toner have a difference in re-dispersion electroconductivity within the claimed range (e.g., 12 $\mu\text{S/cm}$) and the cyan and black toner have a difference in re-dispersion electroconductivity within the claimed range (e.g., 12 $\mu\text{S/cm}$) but

the yellow and black toner have difference in re-dispersion electroconductivity outside the claimed range (e.g., 24 $\mu\text{S}/\text{cm}$), does the toner meet the requirements of the instant claims?

✓ Claim 3 is indefinite because it is unclear what is meant by "salting/coagulating". It is unclear if these are two separate steps that are required simultaneously, if they are alternative steps, or if some other meaning is desired.

✓ Claim 5 is indefinite in the limitation "a ratio of particles having no corner of not less than 50%." It is unclear what is meant by a toner with "no corner". This limitation appears to be referring to the presence of some angle in the toner surface, but it is unclear how much of an angle constitutes a "corner". The limitation of a ratio as a percent is also indefinite because a ratio is a comparison of two values while a percent refers to an amount as compared to the whole. For example, a ratio could be the number of particles with a corner as compared to the number of particles without a corner while a percentage refers to the number of particles with a corner divided by the total number of particles and multiplied by 100. The ratio in claim 4 is similarly indefinite because a ratio cannot be expressed as a percent.

Claim 6 is indefinite because it is unclear what "the next frequency class" in the definition of m_2 means. It is also unclear what 0.23 means at the end of the claim. It appears that this is a value in some units, but it is unclear what the units are.

✓ Claims 7 and 8 are indefinite because a method is claimed without any method steps. Since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. Claims 7 and 8 have been examined as if requiring a step of forming an image as the sole method step.

Claim Rejections - 35 USC §§ 102 & 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cheng in US Patent 6,346,358.

Cheng discloses a toner having a comprising a mixture of cyan, magenta, yellow, and black toners produced by polymerization of a polymerizable monomer in an aqueous medium (col. 4, l. 1-8 & 19-32). Miniemulsion polymerization forms a polymer shell around each pigment (col. 4, l. 19-56). The encapsulated pigments are then aggregated together, followed by coalescing and fusing of the aggregates to form the toner particles. The process has the advantage of retaining the pigments in the toner (i.e., reduced pigment migration outside the toner) (col. 3, l. 52-62) and obtaining toners with similar triboelectric characteristics (see Table 1, col. 25). Miniemulsion polymerization followed by aggregation is disclosed in the instant

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specification as an effective method of obtaining the results of the invention (spec. p. 14, l. 4-7).

See each of the cyan, yellow, magenta, and black toners exemplified in Cheng (cols 17-22).

Each of these toners has a size between 6.8 and 7.1 μm with a narrow particle size distribution.

This indicates that the reference inherently has the histogram characteristics of dependent claim

6. The toners are used in an image forming method (col. 3, l. 52-57; col. 17, l. 20-24).

The specification states that the electroconductivity of the toners depends on the kind of colorant, the dispersibility of the colorant in the binder resin, and the influence of the surfactant left of the surface of the toner (spec. p. 8, top). It appears that a toner will have a higher conductivity in the test discussed on specification pages 8 and 9 if the pigments can migrate from the toner. As discussed above, Cheng's pigments are retained in the toner by the reference's process. This indicates that the electroconductivity of the toner measured by the test of the instant invention is low. Further, this indicates that the number of free colorant particles on the black toner would be a low number and indicates a low light absorbance for the black toner. Given these characteristics there is sufficient reason to believe that the reference's black toner inherently has the number of free colorant particles and light absorbance as claimed.

The reference also teaches that the toners are washed with water (col. 18, l. 26; col. 19, l. 55; col. 20, l. 65; & col. 21, l. 6). Washing would eliminate or reduce the amount of surfactant remaining on the toners are production, which is indicated above as resulting in low conductivity. The reference also uses pigments the same as or similar to those used in the instant invention. For example, the instant invention exemplifies Regal 330 as the black colorant for the black toner. This is the same colorant used in Cheng (col. 21, l. 47). Similarly, both Cheng and the instant specification exemplify Pigment Blue 15:3 for the cyan toner (spec. p. 74 & Cheng col. 19, l. 62). For the yellow toner, Cheng uses Pigment Yellow 17, which is the

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same as disclosed as effective in the instant specification (spec. p. 40, l. 2). Given all these similarities there is sufficient reason to believe that the reference inherently has the same electroconductivity difference as claimed

The reference also states that coalescence temperature and time control permit the artisan to obtain the desired shape of the toner particles (col. 4, l. 47-49). Specifically, the reference discloses that the toners produced by the claimed process are spherical (col. 7, l. 64). A spherical shape would have a very low number of particles with corners, possibly as low as zero and would appear to give a shape coefficient as claimed in dependent claim 4 (see spec. pp. 49-50).

Based on the totality of the evidence it appears that the Cheng reference inherently meets the requirements of the instant claims, specifically the redispersion electroconductivity, number of free colorant particles on the black toner surface, light absorbance of the back toner dispersion, ratio of toner particles with the specified shape coefficient, and histogram characteristics.

"The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness." *In re Napier*, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995). "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same." *In re Fitzgerald*, 205 USPQ 594, 596 (CCPA 1980). The Examiner has met the burden of providing a reason to believe that the claimed characteristics of the toners are inherently present in Cheng. The burden shifts to applicants to prove otherwise.

Claims 1-8 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nishimori *et al.* in US Patent Application Publication 2002/0039699.

Nishimori discloses a toner having a core of resin and core and a resin shell layer over the core (Abstract). The toner is produced by a polymerization process in an aqueous medium to form the resin A particle, followed by coalescence/salting-out process of the resin A and colorant to give a core. A separate resin B is formed by polymerization and this resin is attached to the resin core by a salting-out process (p. 10, ¶¶ [0186]-[0193]). Specific discussion of the aqueous medium is present in ¶ [0204]. The specific examples produce a yellow, cyan, magenta, and black toner having the requisite layer structure. This is substantially the same process as present in the instant specification examples (document p. 15, ¶¶ [0291]-[0303] & ¶¶ [0309]-[0311] and spec. pp. 62-65). The toners have sizes and sphericities as given in Table 2. The combined toner is used to form images in ¶¶ [0319]-[0323] & [0328]. Note the same colorants present in the reference examples as are present in the examples of the instant specification (spec. p. 70 & 71, & document ¶¶ [0309]-[0311]).

Because the reference produces the toners by the same or substantially the same process as present in the instant specification, uses the same or similar materials, and appears to result in the same structure as claimed there is sufficient reason to believe that the reference inherently has the redispersion electroconductivity, number of free colorant particles on the black toner surface, light absorbance of the back toner dispersion, ratio of toner particles with the specified shape coefficient, and histogram characteristics.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703 308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

cdr
January 7, 2003


CHRISTOPHER RODEE
PRIMARY EXAMINER